

U.S. Patent Application Serial No. 10/530,412
Amendment filed September 6, 2006
Reply to OA dated June 6, 2006

AMENDMENTS TO THE CLAIMS:

Please cancel claim 4 without prejudice or disclaimer, and amend claim 1, as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): An agglomerate comprising fine primary particles of ~~an inorganic compound except for silica~~ a synthesized calcium carbonate, the agglomerate satisfying the following expressions (a) to (e):

- (a) $0.5 \leq dp_{50} \leq 20$ [μm]
- (b) $0 \leq \alpha \leq 2.5$ [-]
- (c) $30 \leq Sw$ [m^2/g]
- (d) $20 \leq St \leq 150$ [MPa] and
- (e) $200 \leq Sta \leq 600$ [MPa],

wherein

dp_{50} : the average particle diameter [μm] of the agglomerate measured by Microtrac-FRA, a laser analysis type particle size distribution measurement apparatus,

α : the value calculated by dividing the difference between the particle diameter d_{90} of cumulative 90% minus sieve particles of the agglomerate and the particle diameter d_{10} of cumulative 10% minus sieve particles of the agglomerate calculated by the Microtrac-FRA, a laser analysis type

U.S. Patent Application Serial No. **10/530,412**

Amendment filed September 6, 2006

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particle size distribution measurement apparatus by the average particle diameter dp_{50} according to the following equation:

$$\alpha = (d_{90} - d_{10})/dp_{50},$$

d_{90} : the particle diameter of cumulative 90% minus sieve particles of the agglomerate measured by the Microtrac-FRA, a laser analysis type particle size distribution measurement apparatus,

d_{10} : the particle diameter of cumulative 10% minus sieve particles of the agglomerate measured by the Microtrac-FRA, a laser analysis type particle size distribution measurement apparatus,

Sw : the BET specific surface area of the agglomerate [m^2/g],

St : the tensile strength [MPa] required to break the agglomerate with the particle diameter $4\mu m$, measured by a MCT-W500-J micro compression testing machine manufactured by Shimadzu Corporation under conditions of 9.8 mN in load and 0.892405 mN/sec in load speed, and

Sta : the tensile strength [MPa] required to break 30% of the particle diameter of the agglomerate with the particle diameter $4\mu m$, measured by a MCT-W500-J micro compression testing machine manufactured by Shimadzu Corporation under conditions of 9.8 mN in load and 0.892405 mN/sec in load speed.

Claim 2 (Previously Presented): The agglomerate according to claim 1, wherein the agglomerate satisfies the solidified apparent density satisfies the following expression (f):

U.S. Patent Application Serial No. **10/530,412**
Amendment filed September 6, 2006
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$$(f) 0.2 \leq \rho_{bp} \leq 0.8 \quad [\text{g/cm}^3],$$

wherein

ρ_{bp} : the solidified apparent density [g/cm^3] of the agglomerate powder measured by a powder tester manufactured by Hosokawa Micron Co., Ltd., based on the Carr Theory.

Claim 3 (Previously Presented): The agglomerate according to claim 1, wherein the agglomerate is surface-treated with at least one kind selected from aliphatic acids, alicyclic carboxylic acids, aromatic carboxylic acids, their sulfonic acids and resin acids, their metal salts, ammonium salts, amine salts, esters; aliphatic, alicyclic, and aromatic sulfonic acids; coupling agents; silicone oils; paraffin; copolymers of α,β -monoethylenically unsaturated carboxylic acids and monomers copolymerizable with α,β -monoethylenically unsaturated carboxylic acids, their metal salts ammonium salts, amine salts, esters; phosphoric acid esters; and industrial soaps.

Claim 4 (Canceled):

Claim 5 (Previously Presented): A resin composition containing a resin mixed with the agglomerate according to claim 1.

U.S. Patent Application Serial No. 10/530,412
Amendment filed September 6, 2006
Reply to OA dated June 6, 2006

Claim 6 (Original): The resin composition according to claim 5, wherein the resin is selected from polyolefin resins, polyester resins, polyamide resins, polyvinyl chloride resins, and biodegradable resins.

Claim 7 (Previously Presented): The resin composition according to claim 5, wherein the resin composition is in the form of a film, a sheet or a fiber.

Claim 8 (Previously Presented): The agglomerate according to claim 2, wherein the agglomerate is surface-treated with at least one kind selected from aliphatic acids, alicyclic carboxylic acids, aromatic carboxylic acids, their sulfonic acids and resin acids, their metal salts, ammonium salts, amine salts, esters; aliphatic, alicyclic, and aromatic sulfonic acids; coupling agents; silicone oils; paraffin; copolymers of α,β -monoethylenically unsaturated carboxylic acids and monomers copolymerizable with α,β -monoethylenically unsaturated carboxylic acids, their metal salts ammonium salts, amine salts, esters; phosphoric acid esters; and industrial soaps.

Claim 9 (Previously Presented): The agglomerate according to claim 2, wherein the agglomerate comprises calcium carbonate.

Claim 10 (Previously Presented): The agglomerate according to claim 3, wherein the agglomerate comprises calcium carbonate.

U.S. Patent Application Serial No. **10/530,412**
Amendment filed September 6, 2006
Reply to OA dated June 6, 2006

Claim 11 (Previously Presented): A resin composition containing a resin mixed with the agglomerate according to claim 2.

Claim 12 (Previously Presented): A resin composition containing a resin mixed with the agglomerate according to claim 3.

Claim 13 (Previously Presented): The resin composition according to claim 11, wherein the resin is selected from polyolefin resins, polyester resins, polyamide resins, polyvinyl chloride resins, and biodegradable resins.

Claim 14 (Previously Presented): The resin composition according to claim 12, wherein the resin is selected from polyolefin resins, polyester resins, polyamide resins, polyvinyl chloride resins, and biodegradable resins.